IN THE CLAIMS:

Please cancel Claims 2-5, 9, and 12 without prejudice or disclaimer of the subject matter recited therein.

Please amend Claims 1, 6, 7, 11, and 13 as follows:

1. (Currently Amended) An image processing apparatus for performing gradation conversion processing for an object image, said apparatus comprising:

determination means for determining variables for specifying a gradation conversion function, from a relationship between the variables and a processed image obtained by performing gradation conversion processing for the object image with the gradation conversion function; ~~and~~

gradation conversion means for performing gradation conversion processing for the object image with the gradation conversion function specified by the variables determined by said determination means;

histogram forming means for forming a histogram of the processed image obtained by performing the gradation conversion processing of the object image with the gradation conversion function specified by the variables;

index calculation means for calculating an index from the histogram obtained by said histogram forming means and an average number of pixels of the object image; and

analysis means for analyzing a relationship between the index obtained by said index calculation means and the variables, and determining the variables for specifying the gradation conversion function for performing gradation conversion of the object image from a result of the analysis.

2 - 5 (Canceled)

6. (Currently Amended) An image processing method for performing gradation conversion processing for an object image, said method comprising:

a determination step, of determining variables for specifying a gradation conversion function, from a relationship between the variables and a processed image obtained by performing gradation conversion processing for the object image with the gradation conversion function; ~~and~~

a gradation conversion step, of performing gradation conversion processing for the object image with the gradation conversion function specified by the variables determined in said determination step;

a histogram forming step, of forming a histogram of the processed image obtained by the variables for specifying the gradation conversion function and by performing the gradation conversion processing of the object image with the gradation conversion function;

an index calculation step, of calculating an index from the histogram obtained in said histogram forming step and an average number of pixels of the object image; and

an analysis step, of analyzing a relationship between the index obtained in said index calculation step and the variables, and determining the variables for specifying the gradation conversion function for performing gradation conversion of the object image from a result of the analysis.

7. (Currently Amended) An image processing method according to Claim 6, wherein in

said determination step, the variables are determined so that the flatness of a histogram of the processed image is maximized.

8. (Original) An image processing method according to Claim 6, wherein in said determination step, the variables are determined so that a mean square error between pixel values of the processed image and a flat pixel-value histogram of the processed image is minimized.

9. (Canceled)

10. (Original) An image processing method according to Claim 6, wherein the variables for identifying the gradation conversion function are restricted so as to vary only within a range equivalent to a characteristic curve of a film.

11. (Currently Amended) A ~~computer readable storage~~ computer-readable medium storing a computer program for causing a computer to perform ~~realize~~ the functions of an image processing apparatus according to Claim 1 ~~any one of Claims 1 – 5~~.

12. (Canceled)

13. (Currently Amended) A ~~computer readable storage~~ computer-readable medium storing a computer program for causing a computer to execute the steps of an image processing method according to any one of Claims 6-8, and 10 ~~6 – 10~~.